

CLAIMS

1. Cooling system (100, 110, 120, 130, 140, 150) for cooling of at least one heat-emitting element, comprising
a first heat-receiving part (6) that is adapted to receive heat from the at least one heat-emitting element,
5 a cooling fluid (4) for absorption of heat by heating and evaporation,
a bubble pump (1) for generation of a fluid flow in the system, the bubble pump being positioned downstream the first heat-receiving part (6) and moving the cooling fluid (4) towards
10 a radiator (2, 9) for emission of heat from the cooling fluid in liquid form to the surroundings, and
a condenser (2, 10) for condensing of evaporated cooling fluid (3) and emission of the heat of condensation.
2. Cooling system (100, 110, 120, 130, 140, 150) according to claim 1, wherein the
15 bubble pump has an outlet (5), wherein the outlet (5) during operation of the cooling system is positioned above the liquid level of the system.
3. Cooling system (100, 110, 120, 130, 140, 150) according to any of claims 1 or 2, further comprising a second heat-receiving part (7) for accommodation of a heat-emitting element.
- 20 4. Cooling system (100, 110, 120, 130, 140, 150) according to any of the claims 1 to 3, further comprising a plurality of bubble pumps (1a, 1b).
5. Cooling system (100, 110, 120, 130, 140, 150) according to claim 3, wherein at least some of the bubble pumps are connected in series.
- 25 6. Cooling system (100, 110, 120, 130, 140, 150) according to claim 4 or 5, wherein at least some of the bubble pumps are connected in parallel.
7. Cooling system (100, 110, 120, 130, 140, 150) according to any of the preceding claims, wherein the cooling fluid (4) comprises at least two fluids with different boiling points.
- 30 8. Cooling system (100, 110, 120, 130, 140, 150) according to any of the preceding claims, wherein a first fluid in the cooling fluid (4) is selected from the group of ethanol, methanol, acetone, ether and propane

9. Cooling system (100, 110, 120, 130, 140, 150) according to any of the preceding claims, wherein a second fluid in the cooling fluid (4) is water.
10. Cooling system (100, 110, 120, 130, 140, 150) according to any of the preceding claims, wherein the pressure in the cooling system (100, 110, 120, 130, 140, 150) is
5 adjusted to a desired pressure.
11. Cooling system (100, 110, 120, 130, 140, 150) according to claim 10, wherein the pressure is adjusted so that the lowest boiling temperature of the fluids substantially equals the desired operating temperature of the at least one heat-emitting element.
12. Cooling system (100, 110, 120, 130, 140, 150) according to claim 10 or 11, wherein
10 the pressure in the cooling system is lower than the atmospheric pressure.
13. Cooling system (100, 110, 120, 130, 140, 150) according to any of the preceding claims, wherein a heat-emitting element is integrated in the heat-receiving part (6, 7) and is in direct contact with the cooling fluid (4) in the cooling system.
14. Cooling system (100, 110, 120, 130, 140, 150) according to any of the preceding
15 claims, wherein the heat-receiving part comprises a plurality of separated liquid chambers.
15. Electronic device having one or more elements to be cooled during the operation of the electronic device, wherein the electronic device comprises a cooling system (100, 110, 120, 130, 140, 150) according to any of the claims 1 to 14.
- 20 16. Use of a cooling system (100, 110, 120, 130, 140, 150) according to any of the claims 1 to 14 for cooling of electronic components.